

INDEX

	PAGE		PAGE
Absidia	139	Albumen agar (modified) used for isolation of fungi	112-113
Absidia—		Alkali Soils, Sulfur on (note), J. G. Lipman	205
<i>Lichtheimi</i>	117,119	Alternaria	137, 139, 140, 141, 142, 145
<i>Orchidis</i>	117, 120	Alternaria—	
Absorbing Materials—		<i>humicala</i>	118, 137, 143, 146
in Soils, A Study of the action of Carbon Black and Similar—(paper), J. J. Skinner and J. H. Beattie. See also Carbon Black, etc.	93, 102	sp. (A 36) (B 20)	118, 137
effect of—		Alway, F. J., and Rost, C. O. (paper), The Vertical Distribution of Phosphorus in the Surface Soils of Prairies. See this title	493-497
carbon black in—		Ammonia—	
field soils	98-100	absorption by soils—	
greenhouse benches	96-98	comparison of soils in flasks and upon filters	313
pot cultures	94-96	effect of—	
chalk in field soils	99-100	burning	324
charcoal in field soils	99	calcium	317-319
magnesium carbonate	100	drying	323-324
Absorption of—		leaching	322-323
Ammonia; Factors Affecting the (paper), R. C. Cook. See Ammonia, Factors Affecting	305-344	organic matter (cottonseed meal)	325-326
Ammonium Ion by Soil, The Influence of Various Cations Upon the (paper), K. Miyake	583-588	oxidation by nitric acid	324-325
formula for calculating	583-588	phosphates	327
literature cited	588	potassium salts	326-327
summary	587-588	reaction	319-322
<i>Acremoniella</i>	137, 139	time	311
<i>Acremoniella</i> sp.	118, 137	distribution in soil—	
<i>Acrostalogmus</i>	135, 139, 140, 141	factors affecting—	
<i>Acrostalogmus</i> —		calcium	333-336, 338-341
<i>albus</i>	118, 135	moisture	329-330
<i>cinnabarinus</i>	118, 135, 144	phosphate	336-341
Activity of Soil Fungi, Environmental Factors Influencing the (paper), D. A. Coleman. See Fungi, Environmental Factors, etc.	1-66	potassium	336-341
Agar Agar—		time	329
Some Bacteriological Studies on (paper), C. R. Fellers	255-290	method of determining	328-329
introduction	255-256	variation with different soils	330-333
literature cited	285-290	Factors Affecting the Absorption and Distribution of—in Soils (paper), R. C. Cook	305-344
summary	284-285	experimental	310-340
ammonification of the nitrogen in.	257	plan	310
concentration, effect on counts.	261-265	purpose	309-310
purified, compared with commercial.	260-261	historical review	306-309
reaction, influence on—		introduction	305-306
bacterial counts	265-272	literature cited	341-344
fungus counts	272-275	summary	340-341
sterilization, effect of various pressures and temperatures on bacterial counts	278-283	Ammonification—	
utilization of nutrients of	256-260	as an autocatalytic reaction	481-492
		as influenced by—	
		containers, shape and size	157-158
		cultivation	194-195

	PAGE		PAGE
manganese—		in solution by soil cultures	189-190
chloride	69-71	by pure cultures	190-191
nitrate	78-80	pure cultures described	188-189
sulfate	74-75	sampling (method)	183
manganous oxide	82-83	soil cultures described	185-188
protozoa	366-374	summary	192
salts (various)	451-475	<i>Azotobacter</i> —	
and Nitrification, The Effect of Some		<i>chroococcum</i> —	
Manganese Salts on (paper), P.		in Hawaiian soils	188-191
E. Brown and G. A. Minges. See		pigment of	436
Manganese Salts, etc.	67-85	<i>Vinelandii</i> in Hawaiian soils... ..	188, 190, 191
and Nitrification, On the Nature of			
(paper), K. Miyake. See Nature		<i>Bacillus</i> —	
of Ammonification, etc.	481-492	<i>butyricus</i> on non-nutrient agar.....	258
in laboratory and field compared....	87-92	<i>cloacae</i> , ferrification by	571
as measure of activity of soil fungi. .	5-63	<i>coli</i> —	
of nitrogen in agar	257	effect of agar concentration	265
by soil fungi	142-145	ferrification by	571
Ammonium Ion, The Influence of Various		<i>communior</i> , ferrification by	571
Cations Upon the Absorption		<i>megatherium</i> on non-nutrient agar... ..	258
of—by soil (paper), K. Miyake.....	583-588	<i>mesentericus</i> on non-nutrient agar..	258
Arid Soil, A Vegetation Study on the		<i>phosphorescence</i> , ferrification by....	571
Availability of Nitrogenous Fertiliz-		<i>prodigiosus</i> on non-nutrient agar....	258
ers in an (paper), C. B. Lipman		<i>proteus</i> on filtrate of washed agar... ..	256
and W. F. Gericke	575-582	<i>proteus vulgaris</i> , ferrification by....	571
Ascomycetes	125	<i>pyocyaneus</i> , ferrification by.....	571
<i>Aspergillus</i> from soil, 126-128, 139, 140, 141, 147		<i>Rutida</i> on non-nutrient agar.....	258
<i>Aspergillus</i> —		<i>subtilis</i> —	
<i>calytratus</i>	117, 127, 146	effect of agar concentration.....	265
<i>clavatus</i>	117, 128	on filtrate of washed agar.....	256
<i>diversicolor</i>	117, 126-127, 146	on non-nutrient agar	258
<i>flavus</i>	117, 128	<i>vulgatus</i> on non-nutrient agar	258
<i>fumigatus</i>	117, 126, 146	Bacteria, ferrification by	571
<i>fuscus</i>	117, 128	Bacterial Activities as Affected by	
<i>glaucus</i>	117	Protozoa (paper), S. A. Waksman... ..	363-376
<i>nidulans</i>	117, 126	Bacterial Activities of the Soil, The In-	
<i>niger</i> —		fluence of Salts on the (paper),	
ferrifying power	571	J. E. Greaves	443-480
effect of environmental factors....	5-63	ammonification as influenced by—	
from soil	117, 127	calcium salts	456-458
(n. sp.?) (C 19)	117, 127	carbonates	468-469
<i>repens</i>	117, 128	chlorides	462-464
sp. (K 2)	117	iron salts	461-462
sp. (N 40)	128	magnesium salts	458-459
Associative action of soil fungi and		manganese salts	459-461
soil bacteria	44-61	nitrites	466-468
Availability of—		potassium salts	455-456
Mineral Phosphates, Sulfur Oxida-		sodium salts	451-455
tion in Soils and its Effect on the		sulfates	465-466
(paper), J. G. Lipman, H. C. Mc-		ammonifiers, relationships with high-	
Lean, and H. C. Lint. See Sulfur		er plants	469-470
Oxidation, etc.	499-538	experimental	450-475
Nitrogenous Fertilizers in an Arid		historical	444-450
Soil; A Vegetation Experiment		introduction	443-444
on the (paper), C. B. Lipman and		literature cited	476-480
W. F. Gericke	575-582	stimulation (relative) of various salts	470-471
<i>Azotobacter</i> in Hawaiian Soils (paper),		summary	475-476
P. S. Burgess	183-192	toxicity (relative) of various salts... ..	471-475
experimental	184-191	Bacterial Activity in the Soil, The Ef-	
introduction	183-184	fect of Time and Depth of Cultiva-	
literature cited	192	tion of a Wheat Seed-bed upon (pa-	
localities sampled	185	per), P. L. Gainey. See Cultivating,	
nitrogen fixation—		Effect of Bacterial Activity, etc.....	193-204

	PAGE		PAGE
Bacterial counts on agar—		of Nebraska: V. Water-soluble Constituents	377-386
effect of—		Carbon—	
concentration	261-265	relationship to humus	437-438
purification	260-261	soluble in sodium hydroxide	438
reaction	265-272	Carbon Black and Similar Absorbing	
sterilization	275-278	Materials in Soils, A Study of the	
storage	278-283	Action of (paper), J. J. Skinner	
Bacterial numbers in soil as affected		and J. H. Beattie. See also, Ab-	
by—		sorbing Materials, etc.	93-102
heating	367-375	effect in—	
protozoa	363-375	greenhouse benches	96-98
toluene	367-375	the field	98-100
Bacteriological Studies on Agar Agar,		pot cultures	94-96
Some (paper), C. R. Fellers. See		experimental	94-100
Agar, etc.	255-290	introduction	93-94
<i>Bacterium mycoides</i> , effect of agar con-		literature cited	101
centration	265	summary	100-101
Balance of Nutrient Solutions for		Carbon (Humus) and Humus Nitro-	
Plants in Sand Cultures, Physio-		gen, Some Data on (paper), R. A.	
logical (paper), A. G. McCall. See		Gortner. See Organic Matter of the	
Physiological Balance, etc.	207-254	Soil: I	395-442
Basisporium in soil	136, 139	Carbon and Nitrogen in Seventeen	
<i>Basisporium gallarum</i>	136-137	Successive Extracts, A Study of;	
Beattie, J. H., Skinner, J. J., and (pa-		With Some Observations on the	
per), A Study of the Action of Car-		Black Pigment of the Soil (paper),	
bon Black and Similar Absorbing		R. A. Gortner. See Organic Matter	
Materials in Soils. See Carbon		of the Soil: II	539-548
Black, etc.	93-102	Carbon determination—	
Benton, T. H., Potter, R. S., and (pa-		inorganic	400-403
per), The Organic Phosphorus of		organic (wet combustion)	403-404
Soil. See Phosphorus of Soil, etc. .	291-298	Carbonates, influence on bacterial ac-	
Bicarbonate, water-soluble, in Loess		tivity	468-469
soil	379, 381	Cation range for sand cultures	233-240
Blue-grass Soil, On the Distribution of		Cations, The Influence of Various, upon	
Phosphorus in a Vertical Section of		the Rate of Absorption of Ammo-	
(paper), A. M. Peter	387-393	nium Ion by Soil (paper), K. Mi-	
Botrytis in soil	126, 139, 141	yake	583-588
<i>Botrytis cinerea</i>	117, 126	Cellulose destruction by soil fungi. .	146-147
Brother, G. H., Upson, F. W., Calvin,		Cephalosporia	133-134, 139, 140, 141-145
J. W., and (paper), Loess Soils of		<i>Cephalosporium</i> —	
Nebraska: V. Water-Soluble Con-		<i>acremonium</i>	118-133
stituents	377-386	<i>curtipes</i>	118, 133, 146
Brown, P. E.—		sp. (G 23) (D 32)	118, 133
and Corson, G. E. (paper), Ferrifica-		sp. (C 56)	118, 134
tion in Soils	549-573	Cephalothecium	136, 139
and Minges, G. A. (paper), The Ef-		<i>Cephalothecium roseum</i>	118, 136, 143, 144
fect of Manganese Salts on Am-		Chaetomium—	
monification and Nitrification. See		ferrifying power	571
Manganese, etc.	67-85	of the soil	139
Burgess, P. S. (paper), Azotobacter in		<i>Chaetomium</i> —	
Hawaiian Soils. See this title	183-192	<i>cochlioides</i>	117, 125
Calcium—		<i>olivaceum</i>	117, 125
carbonate—		Chalk, used as an absorbent in field	
amounts in limestone under blue-		soils	99-100
grass soil	388, 391, 393	Charcoal, used as an absorbent in field	
in blue-grass soil	389	soils	99
magnesium ratio in sand cultures. .	245-251	Chemical composition of soil, influ-	
Oxide in Peat Soils, A Rapid Meth-		ence on soil fungi	17-25
od for the Estimation of (paper),		Chlorides—	
R. A. Gortner	505-508 (Vol. I)	influence on bacterial activity.	462-464
salts, influence on bacterial activity. .	456-458	water-soluble in loess soils	381
water-soluble, in loess soils	384	Ciliates, presence of in soil cultures. .	367-375
Calvin, J. W., Upson, F. W., and		Cladosporium	137, 139, 140, 141
Brother, G. H. (paper), Loess Soils			

	PAGE		PAGE
<i>Cladosporium—</i>		Diastase secretion by soil fungi	146, 147
<i>epiphyllum</i>	118, 137, 274	Diococcum	136, 139
<i>herbarum</i>	118, 137, 143	<i>Dicoccum asperum</i>	118, 136
<i>Cladothrix dichotoma</i> , ferrification by	571	Dilution method for isolating soil fungi	114
Coleman, D. A. (paper), Environmental Factors Influencing Soil Fungi. See Fungi, Environmental Factors, etc.	1-66	Direct inoculation for isolating soil fungi	114
Coleman, D. A., Lint, H. C., and (paper), Sources of Error in Soil Bacteriological Analysis	157-162	Distribution of—	
Combustion furnace (electric)	401-402	Ammonia, Factors Affecting the (paper), R. C. Cook. See Ammonia, Factors Affecting, etc.	304-344
Comparison of Field with Laboratory Experiments in Soil Bacteriology, Preliminary Investigations in (paper), G. P. Koch. See Field and Laboratory Experiments, etc.	87-92	Phosphorus in a Vertical Section of Blue-grass Soil, On the (paper), A. M. Peter	387-393
Composition of soil, influence on fungi.	17-25	Phosphorus in the Surface Soil of Prairies, The Vertical Distribution of (paper), F. J. Alway and C. O. Rost. See Vertical Distribution of Phosphorus, etc.	473-497
Composting Mineral Phosphates—		Does Vanadium Interfere With the Determination of Phosphorus in Soils When the Phosphorus is Weighed as Magnesium Pyrophosphate? (paper), R. A. Gortner and W. M. Shaw. See Phosphorus in Soils, etc.	299-304
historical experiments	502-505		
with sulfur	512-533	Effect of—	
Concentration—		Some Manganese Salts on Ammonification and Nitrification, The (paper), P. E. Brown and G. A. Minges. See Manganese, etc.	67-85
of agar in media	261-265	Time and Depth of Cultivating a Wheat Seed-bed Upon Bacterial Activity in the Soil, The (paper), P. L. Gainey. See Cultivating, Effect on Bacterial Activity, etc.	193-204
determination of optimal, for sand cultures	216-219	Environmental Factors Influencing the Activity of Soil Fungi (paper), D. A. Coleman. See Fungi, Environmental Factors, etc.	1-66
Containers, shape and size as affecting ammonification, etc.	157, 158	Estimation of Calcium Oxide in Peat Soils, A Rapid Method for the (paper), R. A. Gortner	505-508 (Vol. I)
Cook, R. C. (paper), Factors Affecting the Absorption and Distribution of Ammonia Applied to Soils	305-344	Error in Soil Bacteriological Analysis, Sources of (paper), H. C. Lint and D. A. Coleman. See Soil Bacteriological Analysis, etc.	157-162
Cook's No. 2 media for fungi	113	Error (probable), formula for	159, 280
<i>Conithyrium</i>	138, 139	Extracts—	
<i>Conithyrium Fuckelii</i>	118, 138	A Study of Seventeen Successive; With Some Observations on the Nature of the Black Pigment of the Soil (paper), R. A. Gortner. See Organic Matter of the Soil: II. 539-548	
Corson, G. E., Brown, P. E., and (paper), Ferrification in Soils	549-573	by ammonia and sodium, compared.	427-434
Country Rock—		Factors—	
The Nitric Nitrogen Content of (paper), R. Stewart and W. Peterson	345-362	Affecting the Absorption and Distribution of Ammonia Applied to Soils (paper), R. C. Cook. See Ammonia, Factors Influencing, etc.	305-344
of—		Influencing the Activity of Soil Fungi, Environmental (paper), D. A. Coleman. See Fungi, Environmental Factors, etc.	1-66
Arizona (northern)	350-352		
Cedar City, Utah	352		
Mt. Carmel, Utah	351-352		
St. George, Utah	348-350, 352		
Cultivating a Wheat Seed-bed Upon Bacterial Activity in the Soil, The Effect of Time and Depth of (paper), P. L. Gainey	193-204		
ammonia-forming power	194-195		
experimental data	193-203		
introduction	193-194		
literature cited	204		
nitrate-forming power	195-203		
summary	203-204		
Czapek's solution agar, used for fungi.	113-114		
Deferrification. See Ferrification, etc.			
Dematium	137, 139		
<i>Dematium pullulans</i>	118, 137, 144		
Depression of microorganisms by manganese	65-85		
Depth of Cultivating a Wheat Seed-bed Upon Bacterial Activity in the Soil, The Effect of Time and (paper), P. L. Gainey. See Cultivating, etc.	193-204		

	PAGE		PAGE
Fellers, C. R. (paper), Some Bacteriological Studies on Agar Agar. See Agar Agar	255-290	summary	61-63
Ferrification in Soils (paper), P. E. Brown and G. A. Corson.....	549-573	imperfect, identifications and descriptions	125-139
experimental studies	562-572	Fungus counts on agar, effect of reaction	272-275
introduction	549-551	Fusaria	138-141, 145, 146
literature cited	572-573	<i>Fusarium</i> —	
methods for determination of—		<i>angustum</i>	118, 138
ferrifying power of soils	561-562	<i>bullatum</i>	118, 138, 146
iron in soils	551-561	<i>caudatum</i>	118, 138
summary	572	<i>orthoceras</i>	118, 138
Ferrifying power of soils	561-572	<i>oxysporium</i> var. <i>resupinatum</i>	118, 138
Ferrous iron, determination in soil....	551-561	<i>oxysporium</i> <i>Schlecht.</i>	118, 138
Fertilizers (Nitrogenous) in an Arid Soil, A Vegetation Experiment on the Availability of (paper), C. B. Lipman and W. F. Gericke.....	575-582	<i>solani</i>	118, 138
Field and Laboratory Experiments Compared (paper), Preliminary Investigations in Comparison of Field with Laboratory Experiments in Soil Biology. G. P. Koch	87-92	Gainey, P. L. (paper), The Effect of Time and Depth of Cultivating a Wheat Seed-bed Upon Bacterial Activities in the Soil. See Cultivating, Effect on Bacterial Activity	193-204
Flagellates, presence in soil cultures..	367-375	Gericke, W. F., Lipman, C. B., and (paper), A Vegetation Study on the Availability of Nitrogenous Fertilizers in an Arid Soil	575-582
Formula for—		Gortner, R. A. (paper), A Rapid Method for the Estimation of Calcium Oxide in Peat Soils	505-508 (Vol. I)
absorption of ammonium ion by soil.	583-588	Gortner, R. A. (paper), The Organic Matter of the Soil: I. Some Data on Humus, Humus Carbon and Humus Nitrogen. See Organic Matter of the Soil: I	395-442
ammonification and nitrification	481-492	Gortner, R. A. (paper), The Organic Matter of the Soil: II. A Study of the Carbon and Nitrogen of Seventeen Successive Extracts: With Some Observations on the Black Pigment of the Soil. See Organic Matter of the Soil: II	539-548
Fungi—		Gortner, R. A., and Shaw, W. M. (paper), Does Vanadium Interfere with the Determination of Phosphorus in Soils When Weighed as Magnesium Pyrophosphate? See Phosphorus Determination in Soils, etc.	299-304
and their Activities in the Soil (paper), S. A. Waksman	103-156	Greaves, J. E. (paper), The Influence of Salts on the Bacterial Activities of the Soil. See Bacterial Activities, The Influence of Salts, etc.	443-480
ammonification	142-145	Hawaiian Soils, Azotobacter in (paper), P. S. Burgess. See Azotobacter in Hawaiian Soils	183-192
as affected by age of culture.....	144-145	Heat, used in partial sterilization of soil	365-375
cellulose destruction	146-147	Humus—	
description of cultures	119-139	estimation of	398-400
diastase secretion	146-147	extract of soil—	
experimental studies.....	111-119, 142-148	Comparison of ammonia and sodium hydroxide	427-434
genera isolated from the soil.....	139-142	discussion of its nature	419-438
historical	104-111	studies on	427-434
introduction	103-104	Humus Carbon and Humus Nitrogen, Some Data on (paper), R. A. Gortner. See Organic Matter of the Soil: I	395-442
literature cited	148-155		
media used	112-113		
methods—			
of isolation	114-115		
of purification	114-115		
nitrogen fixation	142		
numbers in the soil	115-116		
soils used	111-112		
species isolated from the soil.....	117-139		
summary	147-148		
Environmental Factors Affecting the Activity of Soil (paper), D. A. Coleman	1-66		
historical	2		
introduction	1-2		
influence of—			
associative action with soil bacteria	44-61		
composition of the soil	17-25		
moisture	25-34		
organic matter	4-17		
temperature	35-44		
literature cited	63-65		
methods used	3-4		
soils used	4		
species studied	7		

	PAGE		PAGE
Influence of—		Loess Soils of the Nebraska Portion	
Cations (Various) Upon the Rate of		of the Transition Region: V.	
Absorption of Ammonium Ion by		Water-soluble Constituents, The	
Soil, The (paper), K. Miyake....	583-588	(paper), F. W. Upson, J. W. Cal-	
Salts on the Bacterial Activities of		vin and G. H. Brother	377-386
the Soil, The (paper); J. E.		bicarbonates	379-381
Greaves. See Bacterial Activity,		calcium	384
The Influence of Salts, etc.....	443-480	chlorides	381
Inoculation—		inorganic material	379
dilution method for isolating soil		literature cited	385-386
fungi	114	magnesium	384
direct method for isolating soil fungi.	114	methods	378-379
Inorganic—		phosphoric acid	384
carbon determination	403-404	potassium	381
material (water-soluble) in loess soils.	379	sulfates	384
Investigations in Comparison of Field		summary	385
with Laboratory Experiments in Soil		total	385
Biology, Preliminary (paper), G. P.		volatile matter	384-385
Koch. See Field and Laboratory			
Experiments, etc.	87-92	Magnesium—	
Iron—		carbonate—	
oxidation in soil. See Ferrification.	549-573	amounts in limestone under blue-	
salts, influence on bacterial activity.	461-462	grass soil	388, 391-393
		used as an absorbent in field soils.	100
Koch, G. P. (paper), Preliminary In-		Pyrophosphate; Does Vanadium In-	
vestigations in Comparison of Field		terfere with the Determination of	
with Laboratory Experiments in Soil		Phosphorus in Soils when Weighed	
Experiments, etc.	87-92	as (paper), R. A. Gortner and W.	
Koch, G. P. (paper), Studies on the		M. Shaw. See Phosphorus De-	
Activity of Soil Protozoa. See Pro-		termination, etc.	299-304
tozoa, Studies on Activity, etc.....	163-181	salts, influence on bacterial activity.	458-459
Koch's media used for fungi	273	water-soluble in loess soil	384
Knop's solution	209-210		
		Manganese—	
Laboratory Experiments in Soil Biol-		chloride, effect on—	
ogy, Preliminary Investigations in		ammonification	69-71
Comparison of Field with (paper),		nitrification	71-74
G. P. Koch. See Field and Labora-		nitrate, effect on—	
tory Experiments, etc.	87-92	ammonification	78-80
Leaching, effect on distribution of		nitrification	80-82
phosphorus in soil	387, 392	salts, influence on bacterial activity.	459-461
Lime—		sulfate, effect on—	
in peat soils	505-508 (Vol. I)	ammonification	74-75
see calcium		nitrification	75-78
Lint, H. C.—		Manganese Salts, The Effect of Some,	
and Coleman, D. A. (paper), Sources		on Ammonification and Nitrifica-	
of Error in Soil Bacteriological		tion (paper), P. E. Brown and G.	
Analysis. See Soil Bacteriological		A. Minges	67-85
Analysis	157-162	experimental studies	69-84
Lipman, J. G., McLean, H. C., and		conclusions	84-85
(paper), Sulfur Oxidation in Soils		introduction	67-68
and its Effect on the Availability		literature cited	85
of Mineral Phosphates. See Sul-		plan of experiment	68-69
fur Oxidation, etc.	499-538		
Lipman, C. B., and Gericke, W. F.		Manganous oxide, effect on—	
(paper), A Vegetation Study on		ammonification	82-83
the Availability of Nitrogenous Fer-		nitrification	83-84
tilizers in an Arid Soil	575-582		
Lipman, J. G.—		McCall, A. G. (paper), Physiological	
(note), Sulfur on Alkali Soils.....	205	Balance of Nutrient Solutions for	
McLean, H. C., and Lint, H. C.		Plants in Sand Cultures. See this	
(paper), Sulfur Oxidation in Soils		title	207-254
and its Effect on the Availability		McLean, H. C., and Lint, H. C., Lip-	
of Mineral Phosphates. See Sul-		man, J. G. (paper), Sulfur Oxida-	
fur Oxidation, etc.	499-538	tion in Soils and its Effect on the	
		Availability of Mineral Phosphates.	
		See Sulfur Oxidation, etc.	499-538

PAGE	PAGE
Mechanical composition of soil, influence on fungi 17-25	Nebraska, The Loess Soils of the, Portion of the Transition Region: V. The Water-Soluble Constituents (paper), F. W. Upson, J. W. Calvin, and G. A. Brother. See Loess Soils of Nebraska: V 377-386
Media, used for fungi 112-113	Nitrates, influence on bacterial activity. 466-468
Melanconium 138, 139	Nitre spots. See Nitrogen Content of Country Rock 345-362
Melanconium sp. 118, 138, 146	Nitric Nitrogen Content of the Country Rock, The (paper), R. Stewart and W. Peterson 345-362
Method for Estimation of Calcium Oxide in Peat Soils, a Rapid (paper), R. A. Gortner 505-508 (Vol. I)	alkali, relation to nitrate accumulations 355-356
Methods used in sulfur oxidation experiment 511-512	bacteria, non-symbiotic, relation to nitrate accumulations 356-358
Minges, G. A., Brown, P. E., and (paper), The Effects of Some Manganese Salts on Ammonification and Nitrification. See Manganese, etc.. 67-85	conclusions 359-360
Mineral Phosphates, Sulfur Oxidation in Soils and its Effect on the Availability of (paper), J. G. Lipman, H. C. McLean, and H. C. Lint. See Sulfur Oxidation, etc. 499-538	country rock at—
Mixing soil for bacteriological analysis. 159-162	Arizona (northern) 350-352
Miyake, K. (paper)—	Cedar City, Utah 352
On the Nature of Ammonification and Nitrification. See Nature of Ammonification, etc. 481-492	Mt. Carmel, Utah 351-352
The Influence of Various Cations Upon the Absorption of Ammonium Ion by Soil 583-588	St. George, Utah 325, 348-350
Moisture—	historical 345-347
influence on—	literature cited 361
soil fungi 25-34	method of investigation 347
nitrification 200-203	nitrate content of country rock and cultivated soils, relationships of.. 353-354
protozoa 165-177	nitre soils—
limiting factor in fungus activity... 44-55	distribution in geological and geographical areas 358
Molds, ferrification by 571-572	use of 358-359
Monilia 125, 139	reclamation of 358-359
Monilia—	Nitrification—
humicola 117, 125, 143	as an autocatalytic reaction 481-492
sitophila 117, 125	Effect of Some Manganese Salts on Ammonification and (paper), P. E. Brown and G. A. Minges. See Manganese, etc. 67-85
Mucors 120, 139-141, 145	effect of—
Mucor—	cultivation 195-203
botryoides 117, 122	manganese—
circinelloides 117, 120, 121	chloride 71-74
flavus 117, 123-124	sulfate 75-78
glomerula 117, 123	nitrate 80-82
hiemalis 117, 120, 143, 144, 145, 146	manganous oxide 83-84
microsporus 117, 121	moisture content 200-203
plumbeus 117, 120-122, 143, 144, 146	in an arid soil 576-577
racemosus 117, 120, 122, 143, 144	in laboratory and field, compared.... 87-92
Ramanianus 120	On the Nature of Ammonification and (paper), K. Miyake. See Nature of Ammonification, etc. 481-492
saturninus 117, 122	Nitrogen—
silvaticus 117, 122	Content of the Country Rock, The Nitric (paper), R. Stewart and W. Peterson 345-362
sp. (C 44) (D 28) 117, 123	fixation—
sphaerosporus 117, 123	in Hawaiian soils 189-191
Mucorales—	by soil fungi 142
ammonifying power 145	in laboratory and field, compared. 87-92
growth on Czapek's solution agar... 114	of soil compared to that of vegetation 434-438
identifications and descriptions.... 119, 124	soluble in sodium hydroxide..... 438
Nature of Ammonification and Nitrification, The (paper), K. Miyake. 481-492	Some Data on Humus, Humus Carbon and Humus (paper), R. A. Gortner. See Organic Matter of the Soil: I 395-442
formulae for autocatalytic reaction.. 481-483	
applied to ammonification 483-488	
applied to nitrification 488-491	
literature cited 492	
summary 491-492	

	PAGE-		PAGE
in Seventeen Successive Extracts, A Study of Carbon and —: With Some Observations on the Nature of the Black Pigment of Soil (paper), R. A. Gortner. See Organic Matter of the Soil: II.....	539-548	Organic Phosphorus of the Soil, The (paper), R. S. Potter and T. H. Benton. See Phosphorus of the Soil, etc.	291-298
Nitrogenous Fertilizers in an Arid Soil, A Vegetation Experiment on the Availability of (paper), C. B. Lipman and W. F. Gericke	575-582	Oxidation of—	
Nucleic acid in soil extracted by alkali.	294	iron in the soil. See ferrification..	549-573
Numbers of fungi in soil	115-116	Sulfur in Soils and its Effect on the Availability of Mineral Phosphates (paper), J. G. Lipman, H. C. McLean, and H. C. Lint. See Sulfur Oxidation, etc.	499-538
Nutrient Solutions for Plants in Sand Cultures, Physiological Balance of (paper), A. G. McCall. See Physiological Balance of Solutions	207-254	Peat Soils, estimation of lime in, 505-508 (Vol. I)	
Oidium	125, 139	Penicillium	129-133, 139, 140, 141, 145, 147
Oidium—		Penicillium—	
<i>lactis</i>	117, 125	<i>atramentosum</i>	118, 130
sp. (A 30)	117, 125-126	<i>chrysogenum</i>	117, 129, 143, 144
Optimal total concentration for sand cultures	216-219	<i>commune</i>	117, 129
Organic carbon, determination by wet combustion	400-403	<i>cyclopium</i>	118, 130
Organic matter as affecting soil protozoa	367-374	<i>decumbens</i>	117, 130, 143, 145, 146
Organic Matter of the Soil: I. Some Data on Humus, Humus Carbon and Humus Nitrogen (paper), R. A. Gortner	395-442	<i>desiscens</i>	118, 132-133
ammonia and sodium hydroxide extracts compared	427-434	<i>digitatum</i>	117, 130, 143, 146
analytical data, presentation of.....	407-418	<i>expansum</i>	117, 130
analytical methods	398-404	<i>glaber</i>	118, 131, 143, 146
carbon—		group—	
inorganic, determination of.....	403-404	I (13-25)	118, 131
organic, determination of	400-403	II	118, 131
relation to humus	437-438	III	118, 132
discussion of data	419-438	IV	118, 132
experimental	398-438	V	118, 132
humus—		VI	118, 132
estimation of	398-400	<i>italicum</i>	117, 130, 143
extract, is it a soil product?.....	419-427	<i>lividum</i>	118, 130-131, 143, 144
introduction	395-398	<i>luteum</i> (group)	117, 129, 143, 144
leached and unleached soils, carbon and nitrogen compared	438	<i>notatum</i>	117, 130
literature cited	440-441	<i>oxalicum</i>	117, 130
samples analyzed	404-407	<i>Pfefferianus</i>	118, 131, 143
soil extracts, preparation of	398-400	<i>rugulosum</i>	118, 130
soil nitrogen, nature of	434-436	sp. 10, environmental factors.....	5-63
summary	438-440	<i>viridicatum</i> —	
Organic Matter of the Soil: II. A Study of Carbon and Nitrogen in Seventeen Successive Extracts: With Some Observations on the Nature of the Black Pigment of the Soil (paper), R. A. Gortner... 539-548		description	118, 130
experimental	540-548	effect of reaction on	274
introduction	539	on non-nutrient agar	258
literature cited	548	Peter, A. M. (paper), On the Distribution of Phosphorus in a Vertical Section of Blue-grass Soil	387-393
pigment preparations	542-549	Phosphates, Sulfur Oxidation in Soils and its Effect on the Availability of Mineral (paper), J. G. Lipman, H. C. McLean, and H. C. Lint. See Sulfur Oxidation	499-538
summary	547-548	Phosphoric acid, water-soluble, in loess soils	384
		Phosphorus in Soils When Weighed as Magnesium Pyrophosphate, Does Vanadium Interfere with the Determination of? (paper), R. A. Gortner and W. M. Shaw.....	299-304
		effect of vanadium	301-303
		experimental	300-303
		introduction	299-300
		literature cited	304
		summary	303-304

PAGE	PAGE
Phosphorus in Surface Soil of Prairies, The Vertical Distribution of (paper), F. J. Alway and C. O. Rost. See Vertical Distribution of Phosphorus, etc.	493-497
Phosphorus in a Vertical Section of Blue-grass Soil, On the Distribution of (paper), A. M. Peter	387-393
Phosphorus of Soil, The Organic (paper), R. S. Potter and T. H. Benton	291-298
experimental	294-297
historical	292-294
introduction	291-292
literature cited	297-298
summary	297
Phycomycetes, identifications and descriptions	119-124
Physiological Balance of Nutrient Solutions for Plants in Sand Cultures (paper), A. G. McCall.....	207-254
abstract of the paper	207-209
experimentation	216-221
methods—	
culture solutions	213-216
determination of the optimal total concentration	216-219
determination of effect of thirty-six different salt proportions with total concentrations and other conditions alike	219-221
materials used	213
sand cultures with renewed solutions	211-213
introduction to whole paper	209-211
literature cited	251-253
results, discussion of	221-251
calcium-magnesium, effect on growth-rate	245-251
discussion of data	248-251
introduction	245-248
introduction	221-223
method of harvesting	223
presentation of data	224-226
weights, dry	223-226
sand cultures compared with solution cultures	226-233
weight of roots	232-233
weight of tops	226-231
water-requirements	240-245
per gram of entire plant	245
per gram of dry roots	244
per gram of dry tops	241-243
transpiration data	240-241
yields, relation to cation ratio values	233-240
introduction	233-234
weight of roots, cation range for best nine	237-239
weight of roots, cation range for poorest nine	239-240
weight of tops, cation range for best nine	234-236
weight of tops, cation range for poorest nine	236-237
Pigment of the Soil. See Organic Matter of the Soil—	
I	395-442
II	539-548
Potassium—	
salts, influence on bacterial activity.	455-456
water-soluble in loess soils	381
Potter, R. S., and Benton, T. H. (paper), The Organic Phosphorus of Soil. See Organic Phosphorus, etc.	291-298
Prairies, The Vertical Distribution of Phosphorus in the Surface Soil of (paper), F. J. Alway and C. O. Rost. See Vertical Distribution of Phosphorus, etc.	493-497
Preliminary Investigations in Comparison of Field with Laboratory Experiments in Soil Biology (paper), G. P. Koch. See Field and Laboratory Experiments, etc.	87-92
Protozoa—	
as Affecting Bacterial Activities in the Soil (paper), S. A. Waksmann	363-374
experimental	365-374
historical	363-365
introduction	363
literature cited	375-376
methods used	365-366
summary	374-375
effect upon—	
ammonification	369-374
bacterial numbers	367-374
heating soil, effect upon	369-374
length of examination period	165-177
moisture, effect upon	165-177, 367, 371
organic matter, effect of	165-177, 367-368
presence in soil cultures	367, 369-371
separation from bacteria	178
Studies on the Activity of Soil (paper), G. P. Koch	163-181
discussion of recent literature....	163-164
literature cited	180-181
summary	179-180
temperature, effect of	367-368
Purification of fungus cultures.....	114-115
Raisin agar used for fungi	113
Rapid Method for the Estimation of Calcium Oxide in Peat Soils, A (paper), R. A. Gortner	505-508 (Vol. I)
Reaction of agar media	265-275
Renewed solutions used with sand cultures	211-213
Rhizopus—	
ferrifying power	571
in soils	139, 140, 141, 145
Rhizopus—	
nigricans	117, 124, 141, 142
nodosus	117, 124, 144, 146
sp. (B 3)	117, 124, 143
tritica, effect of environment	5-63
Rost, C. O., Alway, F. J., and (paper), The Vertical Distribution of Phosphorus in the Surface Soil of Prairies. See this title	493-497

	PAGE		PAGE
Saccharomyces	125, 139	Sources of Error in Soil Bacteriological Analysis (paper), H. C. Lint and D. A. Coleman. See Bacteriological Analysis, etc.	157-162
Saccharomyces sp?—		Sporotrichium	125, 139
from soil	125	Sporotrichum—	
on non-nutrient agar	258	roseum	117, 126
Salicylic aldehyde, effect counteracted by carbon black	97-98	sp. (G 6)	117, 126
Salts on Bacterial Activities in the Soil, The Influence of (paper), J. E. Greaves. See Bacterial Activities, The Influence of Salts, etc.	443-480	Sterile mycelium in soil	118, 139, 141
Sand Cultures—		Sterilization—	
Balance of Nutrient Solutions for Plants Grown in (paper), A. G. McCall. See Physiological Balance of Solutions, etc.	207-254	effect on agar media	275-278
compared with solution cultures	226-233	soil (partial) by heat	367-375
Sclerotium, in soil	118, 139	soil (partial) by toluene	367-375
Scopulariopsis	133, 139, 141	Stimulation—	
Scopulariopsis brevicaulis	118, 133, 146	of microorganisms by manganese ...	67-85
Shaker for mixing soil	159-162	(relative) of various salts on bacterial activity	470-471
Shaw, W. M., Gortner, R. A., and (paper), Does Vanadium Interfere with the Determination of Phosphorus in Soils when Weighed as Magnesium Pyrophosphate? See Phosphorus in Soils, etc.	299-304	Storage, effect on agar media	278-283
Shive's three-salt solution	209-210	Streptothrices, effect of media reaction on	273
Skinner, J. J., and Beattie, J. H. (paper), A Study of the Action of Carbon Black and Similar Absorbing Materials in Soils. See Carbon Black, etc.	93-102	Study of the Action of Carbon Black and Similar Absorbing Materials in Soils, A (paper), J. J. Skinner and J. H. Beattie. See Carbon Black, etc.	93-102
Sodium salts, influence on bacterial activity	451-455	Studies on the Activity of Soil Protozoa (paper), G. P. Koch. See Protozoa, Studies on, etc.	163-181
Soil Bacteriological Analysis, Sources of Error in (paper), H. C. Lint and D. A. Coleman	154-162	Sulfate, determined as a measure of sulfur oxidation	523
effect of—		Sulfates—	
methods of mixing	158-162	influence on bacterial activity	465-466
size and shape of containers	157-158	water-soluble in loess soils	384
formula for probable error	159	Sulfur on Alkali Soils (note), J. G. Lipman	205
shaker for mixing soil	159	Sulfur Oxidation—	
Soil Biology, Preliminary Investigations in Comparison of Field with Laboratory Experiments in (paper), G. P. Koch	87-92	in Soils and its Effect on the Availability of Mineral Phosphates (paper), J. G. Lipman, H. C. McLean, and H. C. Lint	499-538
Soil extracts (organic matter), preparation of	398-400	composting of phosphates	502-505
Soil Fungi—		experimental	511-533
and Their Activities (paper), S. A. Waksman. See Fungi and Their Activities	103-156	introduction	499-511
Environmental Factors Influencing the Activity of (paper), D. A. Coleman. See Fungi, Environmental Factors, etc.	1-66	literature cited	535-538
Soluble material (total) in loess soils ..	385	methods	511-512
Solutions for Plants in Sand Cultures, Physiological Balance of Nutrient (paper), A. G. McCall. See Physiological Balance of Solutions, etc.	207-254	phosphorus, sources of	501-502
Some Bacteriological Studies on Agar Agar (paper), C. R. Feller. See Agar Agar, etc.	255-290	summary	533-534
		biological factors	532-533
		in different soils	528-530
		moisture as a factor	512-528
		sulfate formation as a measure of ..	523
		sulfur, effect of varying amounts ..	528-530
		Taxonomic consideration of fungi found in soil	119-139
		Temperature—	
		as limiting factor—	
		of ammonification	59-61
		in fungus activity	55-59
		influence on soil fungi	35-44
		Time and Depth of Cultivating a Wheat Seed-bed Upon Bacteriological Activity in the Soil, The Effect of (paper), P. L. Gainey. See Cultivating, Effect on Bacterial Activity, etc.	193-204

INDEX

599

PAGE	PAGE
Toluene used in sterilization of soil.. 365-375	literature cited 497
Tottingham's solution 209-210	summary 497
Toxicity (relative) of various salts to bacterial activity 471-475	Verticillium 135, 139, 140, 141, 146
Transpiration data in sand cultures... 240-241	<i>Verticillium</i> —
Tricalcium phosphate, distribution in blue-grass soil 387-393	<i>glaucom</i> 118, 136
Trichoderma—	<i>terrestre</i> 118, 136
ferrifying power 571	Volatile matter (water-soluble) in loess soils 384-385
in soil 134-135, 139, 140, 141, 146, 147	
Trichoderma—	Waksman, S. A.—
<i>album</i> 118, 135	Protozoa as Affecting Bacterial Activities in the Soil (paper)..... 363-376
<i>Koningi</i> —	Soil Fungi and Their Activities (paper), 103-156
effect of environmental factors... - 5-63	Washington's method for estimating calcium 506 (Vol. I)
from soil .. 118, 134, 141, 143, 145, 146, 147	Water-requirements of sand cultures.. 240-245
on non-nutrient agar 258	Water-soluble material in loess soils of Nebraska. See Loess Soils of Nebraska: V 377-386
<i>lignorum</i> 118, 134	bicarbonate 379-381
strains I, II 118, 134	calcium 384
strains III, IV 118, 135	chlorides 381
	inorganic material 379
Upson, F. W., Calvin, J. W., and Brother, G. H. (paper), Loess Soils of Nebraska: V. Water-soluble Constituents 377-386	magnesium 384
	phosphoric acid 384
Vanadium, Does—Interfere with the Determination of Phosphorus in Soil when Weighed as Magnesium Pyrophosphate? (paper), R. A. Gortner and W. M. Shaw. See Phosphorus in Soils, etc. 299-304	potassium 381
Vanillin, effect counteracted by carbon black 97-98	sulfates 384
Vegetation Experiment on the Availability of Nitrogenous Fertilizers in an Arid Soil, A (paper), C. B. Lipman and W. F. Gericke 575-582	total 385
Vertical Distribution of Phosphorus in the Surface Soil of Prairies, The (paper), F. J. Alway and C. O. Rost 493-497	volatile matter 384-385
experimental 493-497	Wet combustion method for carbon... 400-403
introduction 493	Wheat Seed-bed, The Effect of Time and Depth of Cultivation, Upon the Bacterial Activities in the Soil (paper), P. L. Gainey. See Cultivating, Effect on Bacterial Activity, etc. 193-203
	Zygodesmus 118, 136, 139
	Zygorhynchus 124, 139, 140, 141, 145
	<i>Zygorhynchus Vuilleminii</i> —
	effect of environmental factors..... 5-63
	from soil 117, 124, 143, 144, 145, 147